The Mining Journal

Established 1835 — Railway & Commercial Gazette

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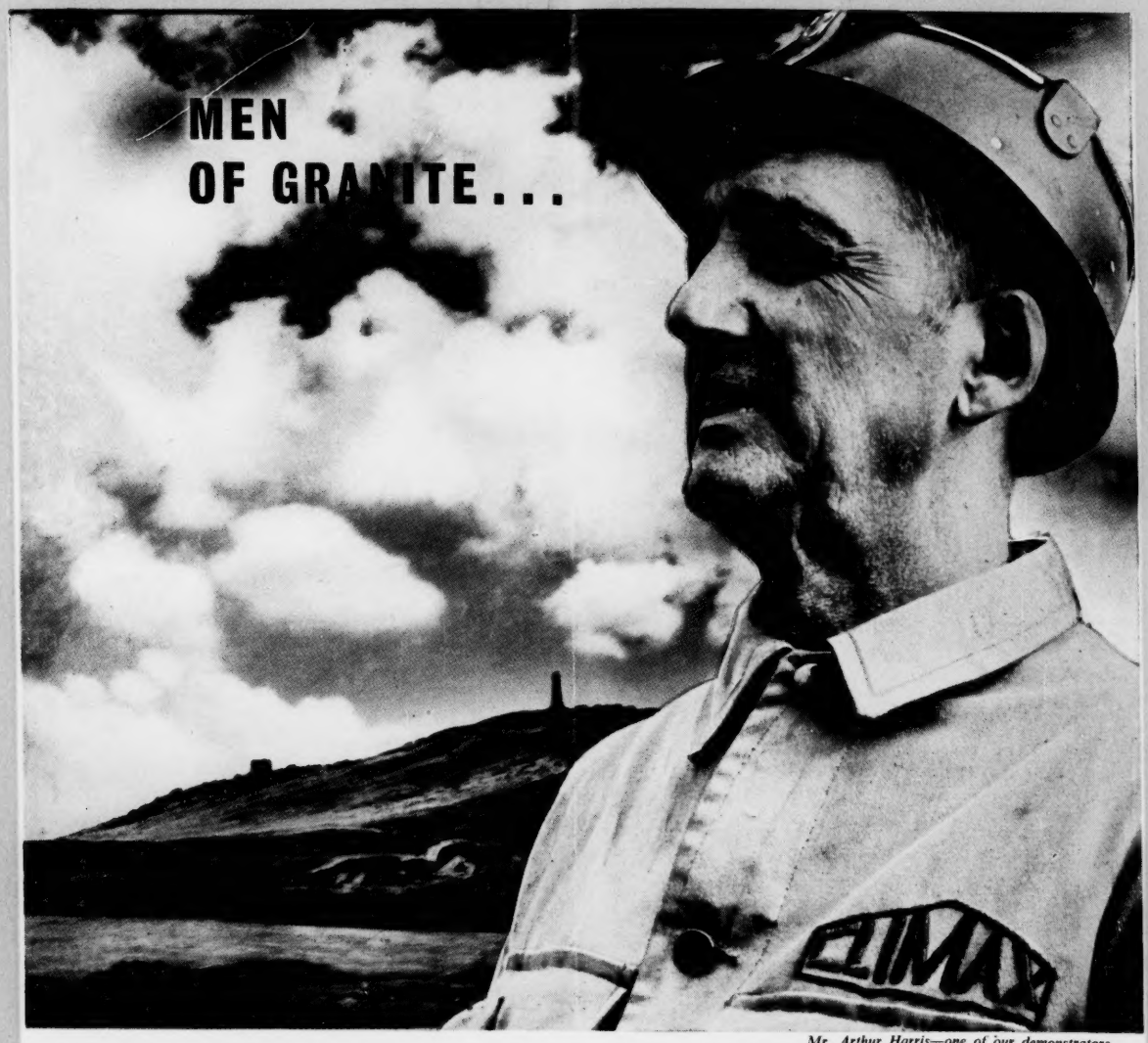

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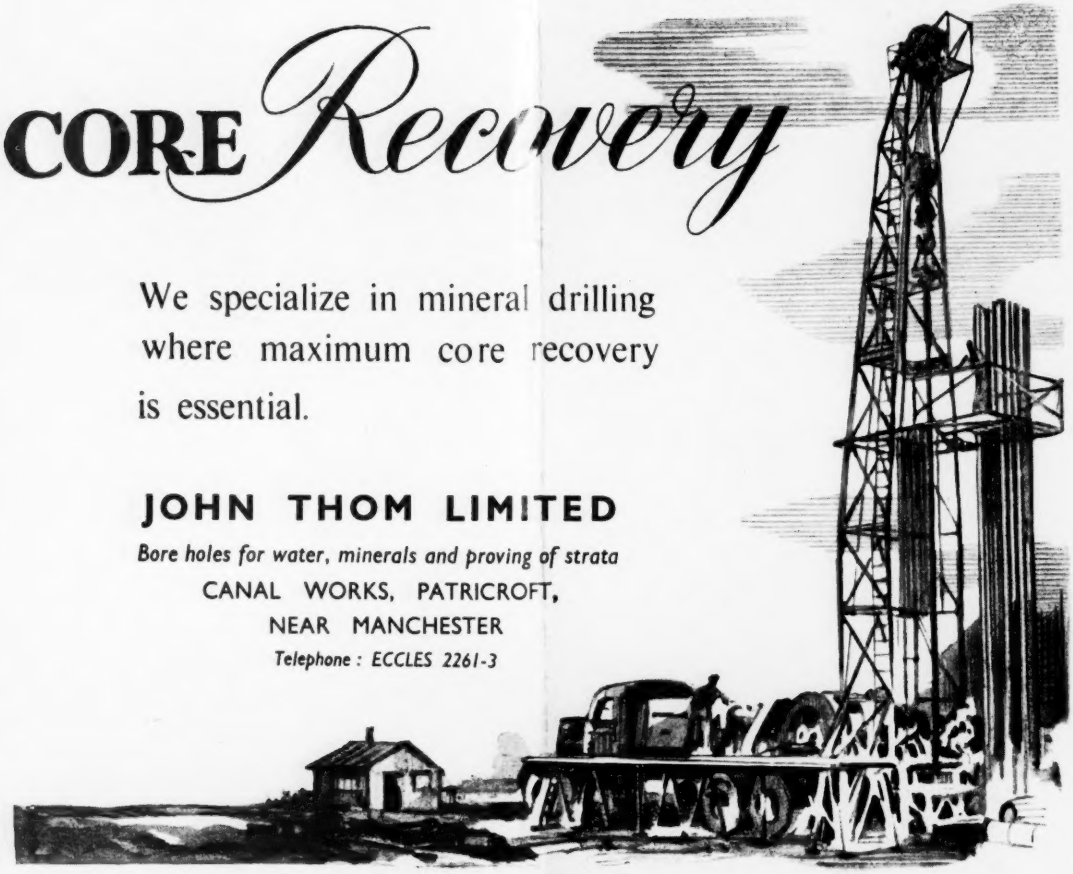

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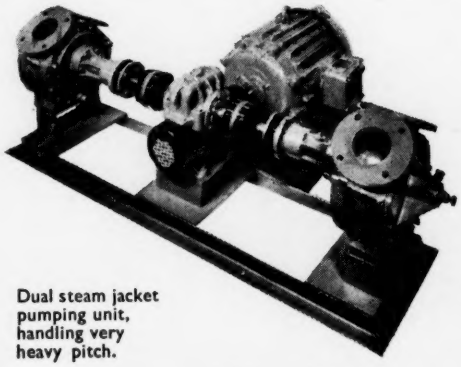

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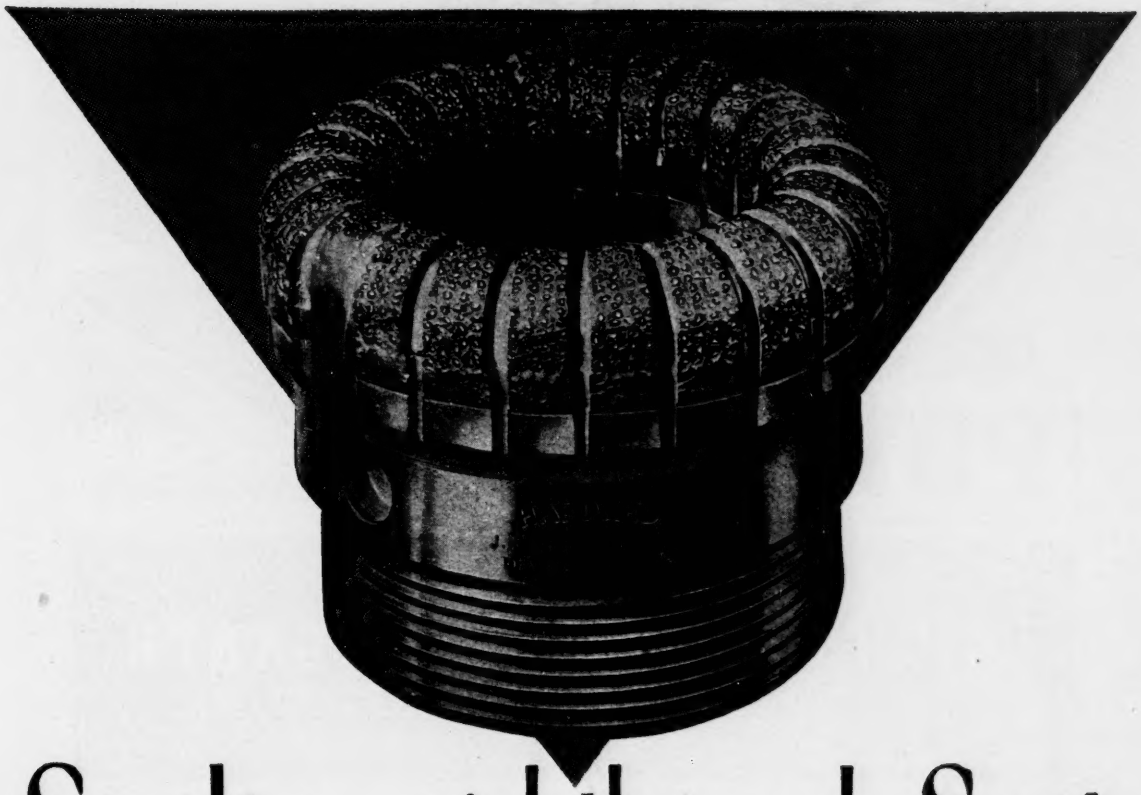

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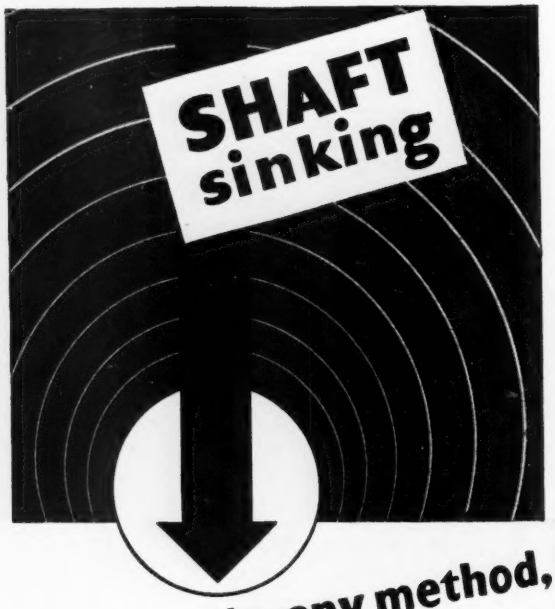

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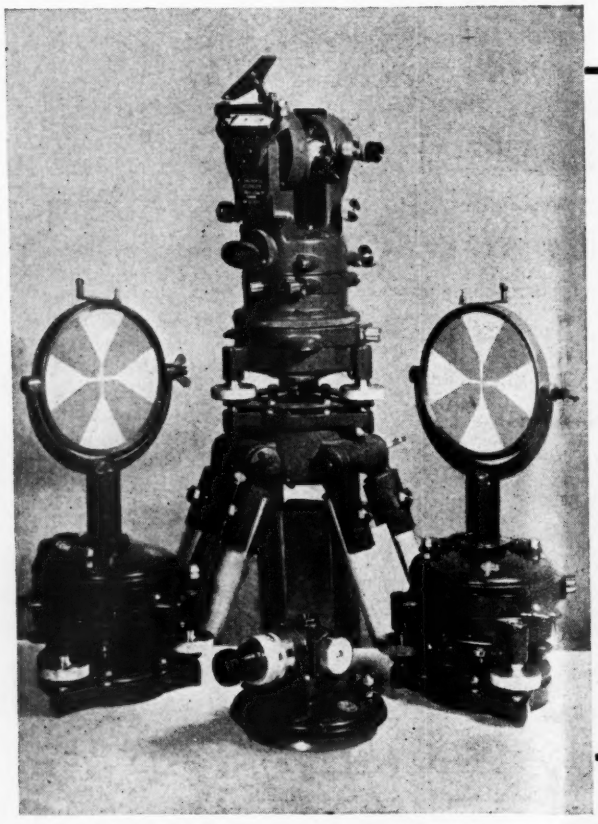

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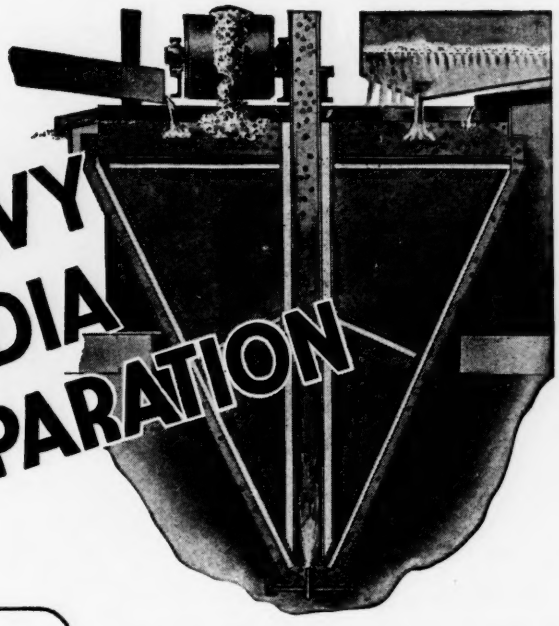

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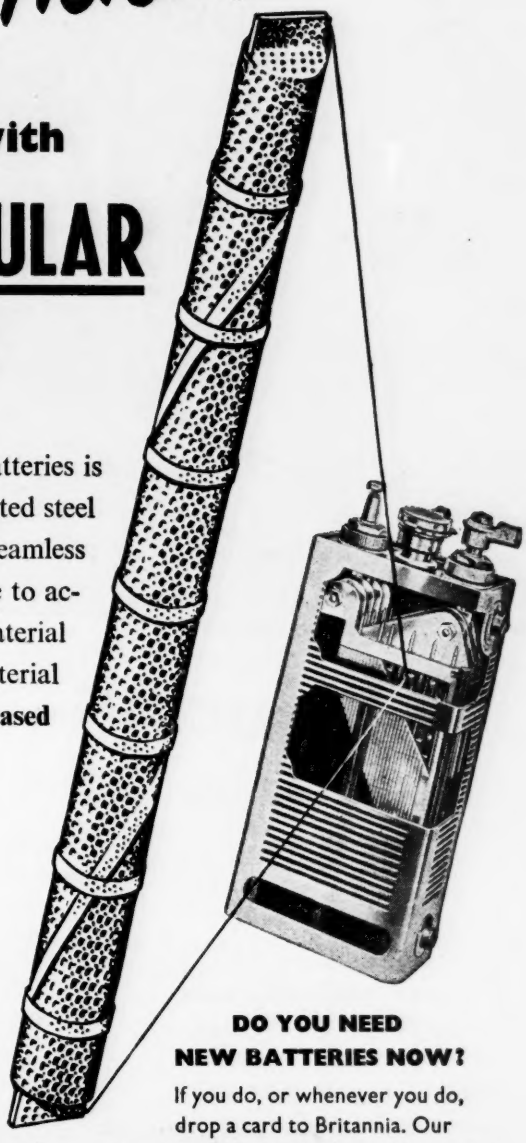

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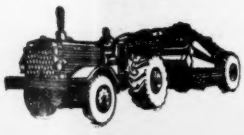
Subsidiary Companies Branches Works  *and Agencies throughout the World*

The Mining Journal

Established 1835

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NOTES AND COMMENTS

The Persian Explosion

In days before the First World War the Balkans were frequently described as the powder magazine of Europe. To-day this invidious distinction might well be awarded to the Middle East. To the inflammatory conditions which developments over the past two years have created in Egypt must now be added the explosion in Persia which took place on Wednesday when the results of the *coup d'état* at the end of last week resulting in the flight of the Shah was reversed by a countermove of the Royalist forces which, according to radio reports from the successful Royalist headquarters, resulted in the complete overthrow of the whilom dictator Dr. Moussadek and the arrest of "all members of his treacherous government." The flight of the Shah had seemed to seal the finality of Mr. Moussadek's adventurous assumption of supreme power and it is too early yet to feel complete assurance that General Zahedi whom the Shah had appointed as Prime Minister on the eve of his flight will be in a position to assure the restoration of peaceful and constitutional government. Royalist forces only triumphed in Tehran after a day's fighting in which it was estimated that 300 lives were lost and a much larger number of injured, and after the employment of tanks, artillery and bazookas, and the reported threat to have recourse to that latest instrument *instrumentum imperii* aerial bombardment, had finally quelled the opposing forces. Apart from internal resistance, the Kremlin has still to be heard from and it is perhaps significant that after *Pravda* had hailed Dr. Moussadek's victory over the Shah, Moscow radio has been silent on the subject. General Zahedi is said to have promised a considerable measure of largess and satisfaction to the much-tried population and this emphasizes once more that the prime necessity for any peaceful outcome must be money and credit. Exacerbation of the Persian situation stems originally from the dispute with the Anglo-Persian Oil Company and the confiscation of their properties. While the world's oil supply has fortunately been maintained through the enormous expansion of production in adjacent territories and Sheikdoms, the damage to the Persian economy has been enormous. The vital labour organization has been disrupted, British employees expelled and an unknown amount of damage done to the largest refinery in the world, to say nothing of possible deterioration in the condition in the oil pools which may have occurred with the stoppage in the regular flow of oil. The situation is one which calls for a statesmanlike and liberal policy by the British Government and the Anglo-Persian Oil Company in their approach to the new situation. It is difficult to see, especially in the light of what has occurred since the confiscation of the oil industry, how the Persian economy can be restored without close co-operation with British interests. In our present very imperfect knowledge of what has taken place and is likely to develop in the future, it is difficult to say more at present than that the restoration of a constitutional régime is very welcome not only as regards Persia itself but as an intimation to other countries in a similar state of effervescence of an underlying distaste for violent revolution.

Copperbelt Companies Conclude Power Agreement with Union Minière

The plans of the Northern Rhodesian companies on the Copperbelt to extend the capacity of their existing thermal power stations so that by 1956 they will be able to meet the estimated Copperbelt load at that time was discussed in our issue of June 26 last. But it was pointed out that from 1957 onwards, when several new Copperbelt mines would be coming into production, the fulfilment of the present expansion scheme would not be able to deal with the additional demand the new Copperbelt mines would create. Accordingly, the Copperbelt companies entered into arrangements with the Comité Spéciale du Katanga and with the Union Minière for the importation of electric power into the Copperbelt from hydro-electric installations on the Lualaba River. Although, as our Belgium correspondent pointed out in our issue of August 7 last, the draft agreement between the two parties was examined, it was not approved. This procedure was followed because the Katanga Special Committee raised the legal point that it was the Committee and not the Union Minière which was entitled to export hydro electric power.

Our Belgian correspondent informs us that the juridical difficulties have now been resolved. He recalls that by the earlier agreements with the Katanga Special Committee, the Union Minière was entitled to harness waterfalls, and use and sell the resultant power. But, he points out, the huge developments which have occurred since the agreement were unforeseen, and while the Union Minière was authorized to build dams and erect a power station, their right to export power was not mentioned. Consequently, he adds, when the Committee learned of the agreement they objected that it was in excess of the powers they gave to the

Union Minière. After long discussions, however, agreement has now been reached under which Union Minière may sell to the newly formed Rhodesia Congo Border Power Corporation the power produced in excess of its requirements, although the Rhodesia Congo Border Power Corporation must pay a special fee for this service to the Katanga Special Committee. This arrangement will not be permanent and must be considered as a convenient stop gap for the Copperbelt companies until the projected hydro-electric schemes at Kafue and Kariba will have reached the stage where the additional power requirement would be assured.

Copperbelt Dispute Still Simmering

The threatened strike action on the Northern Rhodesian Copperbelt continues. The position at the end of last week was that the Nchanga branch of the Northern Rhodesian African Mineworkers' Union by 4,000 to three voted in favour of a strike at the Nchanga Consolidated Copper Mine. Strike action did not follow so that it is presumed the balloting was taken as a mandate to the Union officials to proceed as they saw fit. Certainly the overwhelming vote of confidence given by the African mineworkers allows the Union a free hand, particularly in view of the fact that the company declared that strikers would be dismissed.

That no action has been taken probably arises from the fact that the dispute has been declared unconstitutional and that the European mineworkers are co-operating with the management thereby enabling Nchanga, subject to continued coal supplies, to keep the mine working.

The fact that Nchanga could continue in production without African labour probably accounts, too, for the Supreme Council of the Northern Rhodesian Mineworkers' Union sounding out the reactions of their branches at Roan Antelope and Nkana. But on evidence available their answers which, in effect, gave the Supreme Council a mandate to proceed further with their disputes " constitutionally " were not much help in view of the fact that the dispute has been declared unconstitutional.

The ostensible cause of the dispute goes back to the beginning of the year when the mining companies presented senior tribal representatives in the mining compounds with coloured robes of office. This was effected without reference to the Union which holds that all transactions between management and labour must go through their hands and not those of the tribal representatives. Subsequently, some trade unionists used intimidation against the tribal representatives ; prosecutions followed and a senior Union official was gaoled. The Union is now demanding that those employees—both African and European—who acted as Crown witnesses be transferred or dismissed.

Naturally, the companies cannot be expected to accede to these demands and thereby forego their freedom of action on matters outside the scope of normal management-labour relations.

It is just possible that the African Mineworkers' Union sees the situation in an entirely subjective light. But if so, it calls for a reassessment of the Unions' whole approach to management-labour relationships in the process of which the tide of opinion which has been running in favour of conferring more responsibility on the African may pause to reconsider this step which, on the basis of past achievements, he has shown himself capable of shouldering.

Underground Gasification of Coal

The Belgian Government has asked the High Authority of Europe's Coal and Steel Community to finance experiments at Renory, near Liége, in the underground gasification of coal. The experiments, which had reached a stage where it was believed that outstanding lessons were about to be learned, have now been held for 15 months, because of lack of funds. They started in 1950 and the first surface installations were erected at Renory early in 1952, according to information received recently from Reuter's agent in Brussels.

The Company which has been making the experiments is the Societe Cooperative de la Gazification Souterraine (Socogaz), founded by 28 private companies in Belgium just after the liberation in 1944. Its finance was provided to the extent of 10,000,000 Belgian francs from private sources, 40,000,000 francs by the Belgian Government and 50,000,000 francs each by the French and Polish mines. The whole of this sum of 150,000,000 francs has now been exhausted, 130,000,000 of it on the gasification experiments in Belgium.

Socogaz were on the threshold of major experiments in the use of oxygen for underground gasification of coal when their funds ran out.

The president of the Socogaz direction committee, M. de Smaele, believes that no other country in the world is as far advanced as Socogaz with underground gasification using oxygen. Cost of experiments in Belgium, 130,000,000 francs in eight years, was infinitesimal compared with the total costs of extracting coal in Europe, which amounted to 250,000,000,000 francs every year, M. de Smaele said. He added that work which could save Europe vast sums in labour costs and human effort by making gas underground without bringing the coal to the surface should not be held up for lack of funds.

An article on page 218 of this issue describes the experiments undertaken by Socogaz, as well as those carried out by various European countries and the United States.

The Belgian Congo

(From Our Own Correspondent)

Brussels, August 17.

The terrific fall in tin prices is understood to have had the result that unless there is substantial recovery many of the tin propositions in the Congo and Ruanda-Urundi will be closed down. Meantime, all programmes of investment and renewal of equipment have been suspended. The natural consequences of such closing down will be that native labour—recruited from distant regions—will return to their home villages and that the indigenous population which grows food for the mines will no longer have purchasers for its products. These two facts combined will create unrest and the Communists will probably avail themselves of this circumstance to create disorders. Quite recently, in the interest of maintaining order, the Governor-General of the Congo, M. Petinlin, refused to authorize the issue in the Colony of a Communist paper to be published in Kiswahili, the language of most of the natives of the Eastern Congo, as also of a similar issue in French. A similar demand in Soviet Russia to launch a Czarist paper would mean at least a long sojourn in Siberia, or more probably the gallows.

With reference to the reconvening of an International Tin Conference I learn that on the advice of M. André Dequae, the Belgian Colonial Minister, the Government here has informed Mr. Peter, Chairman of the Steering Committee of the U.N. Conference at Geneva, that Belgium favours the resumption of meetings. However, the *Lloyd Anversois* reported on August 14 that 15 countries had failed to transmit their views to Mr. Peter regarding a resumption of the meetings.

The Sté. Minière du B.C.K. chief world producer of industrial diamonds inaugurated its new hydro-electric power station at Bakwanga on August 2 last. The station which has been named after the British prospector George Sutter-Young will develop 10,000 h.p. Béceca's diamond production last year was 10,985,791 ct. as compared with 9,714,159 ct. in 1951.

Australia

(From Our Own Correspondent)

Melbourne, July 30.

Great Western Consolidated, offshoot of Western Mining Corporation, the latest mine to go into production in Western Australia, holds several mines between Southern Cross and Bullfinch. A substantial sum was spent on proving the most important of the holdings, the Copperhead mine at Bullfinch, which has been equipped and is being opened up for an output of 30,000 tons of ore per month. Ore reserves in Copperhead are 900,000 tons of underground ore and 790,000 tons of open cut ore. Total reserves in the group are 1,300,000 tons of underground ore with an average grade of 5.5 dwt. gold per ton and 790,000 tons of open cut ore assaying 3.4 dwt. per ton, making a total of 2,090,000 tons with an assay value of 4.7 dwt. per ton.

Mining is at present confined to the Copperhead orebody, treating both underground and open cut ore, but returns for a time were disappointing because the open cut ore was of lower grade than had been anticipated. This is being overcome as the tonnage of underground ore is increased, and the long range view is satisfactory. Costs are in step with estimates, and with the up-to-date plant may be improved on. The estimated percentage recovery of gold has been attained. The development programme is to be increased, and finance for this purpose will be made available by Western Mining Corporation. The new programme is believed to include the sinking of the main shaft on the Copperhead. Since the commencement of work, because of the lower grade of ore than had been estimated, recoveries have been slightly under 3 dwt. per ton, but there is recent improvement in head value, in recovery, and in throughput. In the three properties, other than the Copperhead, the average grade of the ore reserves is 7.0 dwt. per ton. After exhaustion of the open cut ore, the group will be entirely an underground mining proposition.

The Mount Magnet goldfield, in Western Australia, is a centre of interest for speculation, based on developments and working results in the Hill 50 Gold Mine. Two new companies have been formed with substantial capital to explore the prospects of repetitions of gold-bearing structure in adjacent mines that have been abandoned for many years. The, now noteworthy, Hill 50 mine, in a full period of 12 months last year, treated 52,427 s.tons and recovered 11,880 oz. of gold; between January and the middle of June this year 17,354 oz. of gold have been recovered from 35,393 tons of ore. Last year's mining costs were 56s. 10d. per ton, including development. The present depth of the main shaft is 960 ft., and sinking is to be carried on for an additional 200 ft. Prospects for the next level to be opened up are considered to be very favourable. Operations of the new companies on the field will be watched with much interest.

EXPANDING POTENTIALITIES OF MOUNT ISA

Mount Isa Mines increased the tonnage of ore treated in the year ended June 30; silver-lead bullion produced was greater, but the tonnage of zinc concentrate was lower than previously. Ore treated totalled 632,735 tons compared with the previous figure of 615,215 tons. Silver-lead bullion produced amounted to 36,970 tons as against 36,860 tons, and zinc concentrate production was 41,828 tons compared with 46,881 tons. Copper production commenced in February, since when 176,010 tons of ore have yielded 5,477 tons of blister copper. The future, of course, depends upon the course of metal prices, and at present copper is the most profitable product. The future trend of the market for this metal is, therfore, a matter for anxiety, not only for Mount Isa, but also for Mount Morgan, and particularly for Mount Lyell, the lowest grade copper mine in the Commonwealth; both Mount Morgan and Mount Lyell, are carrying out large expansion policies, in which the price for copper is an important factor.

Development prospects of Mount Isa stand high. Of the several mines in the group, the Black Star only, has been intensively worked. The other mines have smaller, but higher grade lodes, and at a later time will be more intensively explored. At 12 miles north of the Mount Isa mines, a very large, low grade silver-lead-zinc occurrence in the same beds as contain the Mount Isa occurrences, is being explored by diamond drilling, costeaning and shaft sinking, to be followed by crosscutting the 500 ft. width of the formation. This prospect has the possibility of becoming a very large, low grade open cut proposition, the length of which has yet to be proved; drilling has so far reached a depth of 1,200 ft. The potentialities of Mount Isa are those of a field, rather than a mine.

MOUNT MORGAN'S RISING GOLD RECOVERY

This large Queensland copper mine, whose open cut has now reached a depth of 750 ft., and is to be carried still lower, treated 839,100 tons of ore in the year ended June 30, compared with 890,120 tons in the previous year; metal production was 67,027 oz. gold, compared with the previous 65,842 oz.; and 6,756 tons of blister copper, compared with 5,422 tons in 1952. The company has carried out extensive geological and diamond drilling work, following which, stripping has been commenced on the Sugarloaf orebody adjoining the present workings.

The orebody now being mined, and the Sugarloaf orebody, occur in adjacent anticlines, the intervening syncline also carrying ore, but it would seem that the commercial possibilities of the syncline will depend upon a high price for copper, the grade being lower than in the anticlinal bodies. Metallurgical work is gradually raising gold recovery, for the mine is essentially a gold mine, with subsidiary copper, and an important by-product is being developed in the pyrite concentrate, recovered in the flotation of the copper sulphide. The diamond drilling programme will be extended further afield, to investigate other anticlinal structures in the district.

IMPROVED OUTLOOK OF WELLINGTON ALLUVIALS

This subsidiary of the Broken Hill Proprietary Co. is operating a gold dredge on the Macquarie River, New South Wales. During the last three years work has been much hampered by heavy floods in the river, which necessitated the tying up of the dredge on several occasions. In the year to April 30, 1951, a loss of £A26,744 was made, in the 1952 period the loss was £A46,073, while the year ended April 30, 1953, showed the much reduced loss of £A15,283, after providing for depreciation. The dredge treated 3,633,000 cu. yd. for the year, including 1,611,000 cu. yd. of overburden, for 11,551 oz. of gold. Working costs were 12.67d. per cu. yd. compared with 15.55d. per cu. yd. in the previous year. Although the record yardage resulted in lower costs, it included increased costs for power and wages and higher prices for spare parts and stores. The average recovery per cu. yd. was 1.53 gr. (compared with the previous year's recovery of 1.49 gr.) equivalent to 96 per cent of the estimated average value of the ground. In addition, small industrial diamonds were recovered, and occasionally small stones of high quality are found. There has been a marked recent improvement in the company's affairs.

RUSSIA'S MINERAL RESOURCES—II

The Non-Ferrous Metals

In our last issue we considered certain general conclusions on the state of Russia's mineral industry arising from Professor Shimkin's book on "Minerals—A Key to Soviet Power," published by the Harvard University Press (London: Geoffrey Cumberlege) at 52s. net. This week we are summarizing his estimates of the Russian supply-demand position in respect of some of the principal non-ferrous metals and will conclude with a further selection in a later issue. Professor Shimkin makes frequent reference to Russia's "hypothetical consumption and reserve requirements." These are concepts constructed by the author on the basis of specially prepared, if somewhat arbitrary, indices of industrial activity which cannot be elucidated within the space of this summary. *Mining Journal* readers should not, in our view, attempt to make practical use of the various estimates referred to below without first familiarizing themselves with the precise statistical bases upon which Professor Shimkin has constructed his "hypothetical standards." These are set out in considerable detail in the second chapter of his book. Readers, who wish to compare Professor Shimkin's estimates with those given for the Free World in the Paley Report, may like to refer back to the summaries of the latter appearing in *The Mining Journal* about a year ago in the following issues:—Tin (August 15); Copper (August 22); Lead (August 29); Zinc (September 12); Aluminium (September 29).

The development of non-ferrous metals production, especially since 1932, has been one of the most dynamic aspects of the Soviet economy. In the 25 years from 1926 to 1950, its value (excluding platinum) multiplied some 36 times, from about $5,400,000 at the earlier date to $195,000,000 in 1950. In his classification Professor Shimkin excludes the ferro alloying metals from this group, and deals with them separately. Of the precious metals, the platinum group is included, while gold is grouped separately.

ALUMINIUM

Hampered by weak domestic bauxite resources, a late start in aluminium production, poor aluminium technology, inadequate available power, and wartime destruction of part of its aluminium industry, the Soviet Union produced only 90,000 tonnes of aluminium in 1946. By 1950, aided by large good-quality bauxite supplies from Hungary and by considerable aluminium-reduction capacity stripped from Germany, the Russians had probably achieved their plan of doubling aluminium output. This expansion, plus a very small satellite production, would be adequate to supply Hypothetical Standard peacetime requirements for the entire Soviet sphere. Yet this quantity—180,000 tonnes—is equal to only 70 per cent of that consumed by the U.S.S.R. in 1944, a year in which two-thirds of the Soviet supply came via Lend-Lease. It is equal only to 16 per cent of the joint U.S. and Canadian production in that year. This great disproportion between the aluminium-producing capacity available to the Soviet sphere and to the U.S., Canada and the United Kingdom is described as a "salient military-political phenomenon."

The Soviet Union will be able to achieve self-sufficiency in bauxite only if its indicated and inferred reserves become proved, and then only if recoveries are greatly improved. Total reserves in the U.S.S.R. aggregated 43,900,000 tonnes in 1939, but only 40 per cent of them were measured. Moreover the quality of all Soviet bauxite is but fair to submarginal; much of it fails to reach even the low Soviet standards of 45 per cent Al_2O_3, 15-18 per cent SiO_2, and an Al_2O_3:SiO_2 ratio of at least 3:1. The Paley Report estimates the U.S.S.R. bauxite reserves at 50,000,000 tonnes containing 58 per cent of Al_2O_3 which is rather more favourable than the figure given by Shimkin. The total free world reserves of ore are listed as at least 1,500,000,000 tonnes.

COPPER

Soviet copper production increased almost 17-fold between 1926 and 1950, to a level of some 280,000-290,000 tonnes in the latter year. As a result, the country shifted from heavy dependence on imports to near self-sufficiency, though not to adequacy for satellite supply. Throughout this period the consumption level closely approximated Hypothetical Standard, but because of the intense Soviet effort to increase electric power and because of wastefulness in technology, the metal has been chronically in short supply, even for munitions. Hypothetical Standard copper requirements for the U.S.S.R. up to 1970 aggregate 14,200,000 tonnes of new metal. If the optimistic figure of 80 per cent recovery be assumed, the copper content mined would be 17,700,000 tonnes. Against these potential demands, copper reserves as at January 1, 1948, probably totalled 18 to 20,000,000 tonnes. On the other hand, the actual net recoveries to date have averaged 70 per cent rather than 80 per cent. Furthermore, a large part of Soviet reserves consist of very low-grade and refractory ores, as well as of the copper content of zinc ores. From all these sources possible recovery is low. These factors throw doubt on the actual adequacy of Soviet copper resources. Like the Free World, the U.S.S.R. may well be faced with a difficult situation in regard to copper.

LEAD

Since the war U.S.S.R. production of lead has more than doubled, rising in 1950 to some 144,000 tonnes, which is capable of satisfying 94 per cent of the country's Hypothetical Standard peacetime, or 81 per cent of its wartime demand. Since the defection of Yugoslavia, the Soviet sphere as a whole has become quite deficient in lead and could, at a maximum, supply 80 to 90 per cent of the country's Hypothetical Standard requirements to 1970, but only if high recoveries are achieved and the utilization of secondary lead is developed to a level comparable with that of the United States. The situation of the satellites is similar. An important factor in the expansion of production since the war appears to have been the rehabilitation of existing mines and smelters. Because of the planned and achieved post-war expansion in automotive output (a goal of 500,000 trucks and cars in 1950, as opposed to 200,000 in 1937) and in electric power, the pressure on lead supplies must to-day be as acute as ever.

At a Hypothetical Standard rate of consumption, Soviet virgin-lead requirements to 1970 will total some 3,300,000 tonnes, or about 4,100,000 tonnes of lead contained in ore, assuming 80 per cent recovery. Such a projection, however, assumes increasingly economical use of lead, especially scrap. As at January 1, 1936, lead reserves aggregated 4,123,600 tons, but measured reserves comprised only 1,316,700 tonnes. They have since been seriously depleted, and it is considered doubtful whether at the end of 1947 they exceeded 3,500,000 tonnes of metal content. In order to approach self-sufficiency the present parsimonious use of lead will therefore have to be very stringently maintained.

ZINC

Russian zinc resources, which are largely concentrated in the Kazakh Republic (Turkestan), the Urals and Western Siberia, are clearly inadequate for self-sufficiency at a

Hypothetical Standard level of consumption to 1970. Even with the full availability of satellite zinc resources, the reserve position remains doubtful. While firm absolute figures on Soviet zinc output are lacking, Shimkin considers it highly probable that production in 1945 approximated 52,000 tonnes. Accepting this base, subsequent outputs can be estimated from official claims of percentage increases, which would indicate a production of 128,000 tonnes in 1950. The measures taken to increase output since the war have probably included the expansion of mining at Ridder and allied localities, as well as its restoration in the North Caucasus and the old Transbaikal mines; the installation of new smelters and the restoration of those damaged during the war; finally, somewhat better recoveries. It is improbable that domestic reserves in 1950 exceeded 4,500,000 tons. They are definitely inadequate, therefore, to meet Hypothetical Standard demands to 1970, which total 6,700,000 tonnes of recovered metal. Nevertheless, the achievement of excellent recoveries combined with the full use of satellite resources might cover these needs.

In general, the Soviet's outlook for lead and zinc appears to be rather less favourable than that of the free world. In lead the authors of the Paley Report estimate that, with probable U.S. needs around 900,000 tons at least, the total mine production needed from the rest of the free world in 1975 would be at least 2,400,000 tons, or double the 1950 output. Despite a relatively good reserve position, the outlook for a doubled production is not regarded as good. Similarly the demand for new zinc in the free world is expected to reach a level of 3,300,000 tons in 1975, and with indicated U.S. import needs of 800,000 tons, foreign free world mine production would have to be of the order of 2,500,000 tons, or approximately double the 1950 level. The reserve prospects for such an increase are regarded as favourable.

TIN

The absence of critical information on Soviet tin production and imports since the war makes impossible more than an approximate assessment of the present position. In general, it appears that production has risen sharply during the past decade. Shimkin believes that in 1947 it was of the order of 6,500-7,500 tonnes, compared with 3,000 tonnes in 1940. The output for 1949 has been estimated at 8,000-9,000 tons.

According to official claims, geological discoveries multiplied known Soviet tin resources more than tenfold between 1932 and 1942, and other major finds were subsequently made. At the present time these reserves probably aggregate well over 100,000 tonnes of metal content, but requirements to 1970 approximate 325,000 tonnes at Hypothetical Standard. Furthermore, many of the Soviet ores are extremely lean, while tin-concentration technology was still very inadequate as late as 1946. Finally, the largest deposits are in inaccessible regions of north-eastern Siberia, with extraordinarily difficult and costly operating conditions. At the most favourable estimates, the U.S.S.R. reserves appear to be small in comparison with those of the free world, which the Paley Report estimates at 5,000,000 l.tons of metal in ore as a very rough approximation.

ANTIMONY

The position of the U.S.S.R. in regard to antimony supplies has been revolutionized within the past decade. In place of its previous full dependence on foreign sources, it is now self-sufficient and possesses reserves that may ultimately permit a moderate export of the metal. Whereas the estimated antimony requirements of the Soviet Union for the period 1950-1970 total 175,000 tonnes, the reserves aggregate well over 400,000 tonnes of metallic antimony, though largely in low-content ores.

Reclamation of Asbestos

As a result of a request made by the U.S. Navy's Bureau of Ships to study the possibilities of reclaiming asbestos insulation discarded during the repair or refitting of ships, Mr. E. W. Zimmerman at the National Bureau of Standards has developed simple, effective chemical procedures for the reclamation of such asbestos material. In the newly-developed reclamation process, extraneous material is first removed from the asbestos cloth by chemical treatment, and the cleaned cloth is then reduced to fibre form in a paper-pulp beater. The recovered asbestos is unchanged chemically, with little or no shortening of the fibres. And it appears well suited to further use as electrical and heat insulation, for making asbestos paper, and as a filler in moulded plastic compounds. The development, moreover, is a partial answer to the problem of how to stretch present supplies of this critically short material.

To aid the Bureau in its investigation, the Navy supplied samples of discarded pipe insulation. These were of three general types: asbestos cloth, asbestos-cotton cloth, and a moulded pipe lagging having asbestos fibre as a filler and magnesia cement as a binder. Some of the asbestos-cotton cloth had glass strands woven into the yarns. Other samples of this cloth were painted or were covered with a cement-like material containing magnesia. The problem thus reduced itself to two parts: first, removing the extraneous material and, second, reducing the cleaned yarn or cloth to fibrous form.

HIGH TEMPERATURES AVOIDED

For applications where flexibility is desired, such as asbestos paper or cloth, chrysotile asbestos is used. Although this type of asbestos is quite satisfactory for insulating heated pipes, it loses its water of constitution and becomes brittle when heated to about 800 deg. C. Thus it was necessary to develop procedures that would reclaim the asbestos fibres without the use of excessively high temperatures.

It was found that asbestos or asbestos-cotton fabrics, other than those containing paint, can be freed of adhering cement by first treating with 5 per cent hydrochloric acid and then rinsing. Fabrics painted on one side are treated with alkali instead of acid to remove the paint as well as the cement. This is accomplished by boiling in 5 per cent sodium hydroxide solution for 15 to 30 minutes, followed by a preliminary rinsing, a warm wash with a synthetic detergent to remove the paint pigments, and a final thorough rinsing.

Removal of cotton from the cleaned cloth is best effected by the use of heat, but the process requires rather careful control to avoid loss of the water of constitution and consequent embrittling. Thin layers of the material are heated in a muffle furnace at a temperature between 400 deg. and 450 deg. C. The time necessary to burn out the cotton in this temperature range depends largely on the equipment used. After removal of cement, paint, and dirt, the cloth is reduced to fibre in a rotary food blender or in a paper pulp beater.

The fabric containing glass strands was composed of very short asbestos fibres. While an acid wash followed by rinsing removes most of the cement from this material, removal of the dirt is difficult without loss of some of the short asbestos fibres, which float off with the dirt. The recovered product contains glass fibres intermixed with the short asbestos fibres and thus will probably be of limited use.

The moulded insulation yielded only 15 per cent of fibre, and this was highly contaminated with foreign materials. Thus, recovery of asbestos from such material does not seem very practicable. In any case, use of the fibres recovered from the moulded insulation would have to be limited to magnesia-cement components and like products.

The Gasification of Coal—A Survey of Recent Experiments

During 1952 a technical assistance mission visited the United States, under the auspices of M.S.A. and O.E.E.C., to attend the first conference on the underground gasification of coal. The following article is a condensation of a report of this conference, at which were presented the conclusions drawn from experiments on underground gasification held in several European countries and in the United States. The article explains the methods of gasification employed, gives details of individual national experiments, and notes the conclusions. More recent information on underground gasification is contained in " Notes and Comments."

Although much work remains to be done before coal getting by underground gasification methods can be considered successful, sufficient information has become available from experiments already undertaken to establish the general principle and to indicate the particular method to be used in a given set of conditions to obtain the most efficient gasification.

The essential factor common to all methods of underground gasification is that there must be a stream of air or other combustion agent, be it air, steam, oxygen or a mixture of all three, which is directed from the surface to a point in the seam to be gasified. The comburent then circulates through the seam in contact with the coal with which it reacts to form CO, CO_2, H_2, and is brought back to the surface from some other point in the seam.

THE FOUR GENERAL METHODS

There are four general methods of underground gasification; the Stream Method, the Parallel Boreholes Method, Percolation, and the Underground Chamber Method, the chief distinguishing feature being the manner in which the gas circulates through the seam.

With the Stream Method, the area for gasification is marked out on three sides before the test begins: two parallel galleries are connected by a third passage known as the " fire-face ", in which the firing is begun and maintained by a flow of comburent injected through one of the parallel galleries, the resulting gas being evacuated through the other. Combustion continues in this way, creeping back between the two parallel tracks. Thus, the fire-face moves along as in blasting; the parallel lines between which it moves may run horizontally or follow the slope of the seam; this method can be used both in horizontal or sloping seams.

With methods using Parallel Boreholes, the gas stream is driven into small-diameter holes drilled parallel to the direction of the seam. As a result of combustion, the holes gradually increase in diameter.

With the Percolation Method, no mining operations are needed in the seam before the test is made. The gas flow circulates through the coal mass either by the natural porosity of the seam, or through cracks produced by the injection of air or liquid under high pressure, or by electrocarbonization by the passage of electric current.

Finally, in the Underground Chamber Method, coal cut in the normal way is stacked up in the underground chambers produced by its removal; here, without being raised to the surface, it is gasified as in a gas producer above ground.

TESTS IN VARIOUS COUNTRIES

Unfortunately the conclusions drawn from the experiments carried out in the U.S.S.R. were based on Russian publications issued prior to 1942 so that it is impossible to know what inferences might be drawn from recent experience. Be that as it may, the documents available showed that each of the four methods of underground gasification had been tried. The Underground Chamber Method has been abandoned, as have other practices of gasification which demanded the disintegration of the coal with explosives. The Percolation Method appeared to have been successful in industrial applications but no details are available concerning the actual results achieved with this method, which requires powerful equipment and a blast pressure of several atmospheres. The Parallel Borehole Method was found to be the most efficient medium for establishing the best contact between the combustion agent and the fuel while simultaneously providing the most effective control over the fire, but as it required a good deal of underground work, experience showed that it was not practical for large-scale operations. On the other hand, the Stream Method was easily applied on a large scale without excessive underground work, and was used on an industrial scale in the Soviet Union in 1938.

Experiments at Djerada, in French Morocco, used the Stream Method. It was found that the oxygen content remained constantly nil and the hydrogen content was usually higher than that of carbon monoxide. Losses to the rock mass varied between 50 and 80 per cent in inverse proportion to the air-flow rate.

Experiments in Italy using the Stream Method were begun in 1947 and took place in lignite deposits but proved to be largely abortive.

THE BOIS-LA-DAME EXPERIMENTS

The Italian experiments, mentioned above, were arranged by the Belgian company, Societe Cooperative de la Gazification Souterraine (Socogaz), and this company has been a joint participant in the better known Belgian experiments. Indeed, Belgium has made a marked advance in the study of underground gasification. A preliminary experiment at Bois-la-Dame in 1948 was followed by subsequent experiments at the same venue between November, 1949, and September, 1950, together with surface trials up to 1951.

The Bois-la-Dame experiments used the Stream Method, and in spite of the fact that the first test was abandoned after 36 days because of fire and the second was interrupted by various mishaps, the findings were valuable. The main conclusions reached were that resistance of the face increased rapidly at the start of the test but stabilized after two or three days; that generally the " fire drift " followed the direction of the gas flow; and that the gas produced improved in quality when the air flow was increased (diminution of oxygen followed by the appearance of CO).

In the experiments using units of one ton of coal, comparisons were made between the various combustion agents. Experiments using cold air showed that with air speeds of 0.3 to 10 metres per sec. the " fire drift " moved in the direction of the air flow at a velocity rising to one metre per hour, and that the length of channel needed to exhaust the oxygen was approximately 25 diameters at an air flow of eight metres per sec. The product gases consisted of CO_2 and N_2 only.

The experiments showed also that when air preheated to 600 deg. was used the " fire drift " remained stationary and that with rates of flow exceeding three metres per sec., combustion was maintained with no deterioration in the quality of the product gases, while at lower speeds the ash adhered to the surface of the fuel and gradually choked the fire. When oxygen and steam were used, the " fire drift " showed

a distinct tendency to move backwards against the air flow. Outputs of up to 70 per cent were obtained.

Following upon the observations made in underground workings and from the results achieved with large-scale models, a new layout has been proposed for gasification workings using oxygen, namely a set of parallel channels fed in one direction only with oxygen and steam.

THE GORGAS EXPERIMENTS

Three experiments at Gorgas, United States, were commenced in 1946 and the last is still proceeding. The first test used the Stream Method and was conducted mainly with air injections, although mixtures of oxygen and steam and oxygen-enriched air were also used. Throughout 50 days the oxygen content remained negligible with the calorific value of the gas varying from 220 cal. to 560 cal., at an average of 380 cal. This average rose when the " flow rate " was increased. Losses to the rock mass averaged 50 per cent. In the second experiment an attempt to introduce packing by compressed air through boreholes along the axis of the gallery led to a slight reduction in the oxygen content, although the content of combustible matter remained low. The method used in this experiment was partly the Stream and partly Percolation.

But in the third experiment, which is still in progress, the Percolation Method alone was adopted, together with the new technique of electro-linking. In carrying out electro-linking, two vertical boreholes were drilled into the seam, two electrodes maintained at different potentials were inserted, and sufficient electric current passed between them to heat the coal to distillation and coking temperature. In this way the coal became porous and sufficiently permeable to pass a gas flow between the two boreholes. At first resistance between the two electrodes was high, but as the coal coked, resistance decreased and the applied voltage was progressively reduced to maintain a reasonably constant power input. It proved possible to connect boreholes ten metres apart in a seam eight metres thick. In one phase of the experiment two electrodes were kept in continuous action for 119 hours before operations were voluntarily suspended.

ENCOURAGING RESULTS IN THE U.K.

In a statement in Parliament on July 31, Mr. Geoffrey Lloyd, Minister of Fuel and Power, said that encouraging results had been gained from the experimental work on underground gasification undertaken by the Ministry in the United Kingdom. More than 1,500 tons of coal had been gasified in experiments which have been proceeding since 1950, having as their long-term objective the production of a gas suitable for exploitation by ordinary mining methods.

Investigations began on a site at Newman Spinney (near Chesterfield) in a total seam thickness of approximately 10 ft. The lower ends of two vertical boreholes were joined by a 6 in. diameter hole in the coal seam, and ignition effected by gas torch. During two months of operation the gas quality varied between 500 and 900 cal./cu.m. in an air throughput which was maintained at between 300 and 600 cu. m./hr. During the early stages about 67 per cent of the heat in the coal was gasified and brought to the surface, and of this approximately 75 per cent was in the form of potential heat of combustible gases and 25 per cent of sensible heat. As the experiment continued the total thermal recovery decreased to about 55 per cent and the proportion of potential heat also became smaller.

Other tests at Newman Spinney were used to discover a method of creating passages through the seam by injecting air or water at a suitable pressure, when it was found that the permeability of the seam was small until the injection pressure exceeded the pressure caused by the weight of the overburden. A considerable flow of air could then be passed between boreholes at least 33 ft. apart. It would appear that permeability thus induced is the result of a slight lifting of the overburden and investigations are being extended to a second site at Dayton, in Worcestershire.

CONCLUSIONS FROM COMPLETED EXPERIMENTS

All the countries mentioned have drawn up active programmes for the continuation of underground gasification experiments. Some of these, notably the programmes charted in the United States and Belgium, include departures from the methods hitherto used.

In the light of the experiments already made, it may be assumed that whichever method of underground gasification is used, the gradual combustion of the coal tends to enlarge the space available for the passage of the gas flow, a factor which reduces the contact between gas and coal. The most important factor in controlling the contact of the gas with the coal is the behaviour of the ground, roof and walls, and of the ash which may fill up the space left by the combustion of the coal. It was also observed that the speed of mixture of the various eddies or gas is directly affected by the turbulence of the gas flow, which increases in proportion to its speed, and in most of the experiments an increase in the airflow was accompanied by an increase in the force of the reaction.

The Percolation Method ensures good contact between gas and coal at the start of the operation but the drawback of this method is that rather large pillars of coal are left behind. The Stream Method seems unsuitable for seams of less than 30 deg. dip, and in horizontal seams it appears essential to begin operations with a narrow inlet.

The Parallel Borehole Method affords a satisfactory solution to the problems of contact between gas and coal, provided that the holes are relatively close together, but very extensive preliminary work is required.

Every experiment showed that in so far as movement of the " fire drift " and the reversal of direction are concerned, the cross-wise movement of complete combustion of the coal through the thickness of the seam is fairly easily produced. In the underground experiments in which air blowing was used, the lengthwise movement of the " fire drift " tended to work forward in the direction of gas flow.

The experiments also established that thermal efficiency depends chiefly on the amount of heat lost in the rock mass and in the production of steam, although in all experiments considerable difficulty was experienced in preventing leakages of gas, which in many cases amounted to 50 per cent of the air flow injected. When the gas flow was periodically reversed, the air was pre-heated before it entered the workings by being passed through the approaches which formerly conveyed the hot gases. The amount of heat recovered in this manner varied according to the length and diameter of the approaches concerned. The cost factor, however, is a serious disadvantage.

The choice of combustion agent rests on the presence of nitrogen. If air alone be used, or air with a small quantity of steam, the result is a gas which necessarily contains a high proportion of nitrogen. Allowing for losses to the rock mass, which can hardly be reduced below 25 per cent, it is clear that continuous blowing of air and steam cannot produce a gas with a calorific value markedly in excess of 1,000 cal. per cu. m. at any rate from a coal of low VM content. It is not an economic proposition to transport such gas over long distances and usually its only value is for the production of power in local plant.

On the other hand, gas without nitrogen can be used for many synthetic purposes, from methanization to the manufacture of hydro-carbon. It can also be used for all types of power production or chemical processes in which CO and H_2 are required.

MACHINERY AND EQUIPMENT

A Revised Magnetic Flaw Detector

In its latest form the Minchom Sempun Magnetic Flaw Detector, manufactured by R.P.R. Patents Ltd., includes simple means by which the magnetic force applied to any article to be tested for flaws can be varied according to the size and nature of the material. The range of magnetic force applied by the unit is from less than 200 Oersteds at 2 in. gap to more than 300 Oersteds.

The detector comprises a central member which incorporates the remagnetizing coil and acts in addition as a handle, two middle or side links and two self-setting pole shoe brushes which make magnetic contact with the surface of the article under test. Flexibility is obtained by means of ball links which swivel in spherical sockets. These balls are laminated in three laminations of which the centre, or coloured lamination, is of a suitable non-magnetic material.

The Minchom Sempun magnetic flaw detector

When the link to which the ball is firmly attached is turned through 180 deg. in order to bring the non-magnetic lamination in contact with the spherical seat, the magnetic force is called upon to traverse the equivalent of an air gap. This absorbs a large part of the magnetic force with a consequently reduced effect between the pole shoe brushes. Since there are four ball links in all, four definite values or levels of magnetic force can be employed.

Blasting by Igniter Cord

The use of igniter cord for blasting operations in drift driving has been adopted by the International Nickel Company of Canada Ltd. at its mines in the Sudbury district of Ontario. The method is claimed to be safer and more efficient than older methods as a blaster needs to remain at the face only long enough to light a single fuse instead of a grouped round, and because igniter cord has been found more efficient than electricity for hole detonation.

Of these two benefits, considerations of safety were the chief reason for the company's departure from traditional blasting methods. The advantage gained through the necessity of lighting one fuse only is desirable at all times and in all underground situations, but is particularly so where the path of retreat from the working place is difficult and time-consuming, or where staging has to be removed. When igniter cord is used, it is possible to delay the actual lighting of the round for a considerable time by employing a fuse of sufficient length as a master fuse, so that the igniter cord circuit is not lit until all operatives have reached a position of safety.

In the operational method, all fuses in a loaded face are connected to the igniter and in the order in which it is desired to detonate the holes. After it is lit, the igniter cord burns along its length with an external flame which is usually short and hot. This in turn lights the safety fuses. The type of cord used at the Sudbury mines of INCO burns at the rate of approximately 20 sec. per ft. and is designed to meet the conditions encountered in development rounds or locations where the holes are drilled relatively close together.

Another type of cord having a burning speed of approximately 8 to 10 sec. per ft. is designed for use in conjunction with safety fuse for rotation firing on stope breasts where the holes may be callared from 2 to 4 ft. apart.

In these operations, the safety fuse is attached to the igniter cord by means of a connector which takes the form of a shell containing composite ignition charge consolidated under pressure. A slot at one end of the connector holds the igniter cord securely.

Foreign Contracts For British Manufacturers

Contracts for the supply of heavy industrial equipment have been granted from Malta, Turkey and the Soviet Union to several British firms, according to recent information received. The equipment concerned includes turbo-generator sets, power cables and overhead lines.

The Turkish Government has signed a £3,500,000 contract with The Metropolitan-Vickers Electrical Company for extensions to the Catalagzi power station. The extensions will double the capacity of the plant, which was built and equipped by Metropolitan-Vickers as the main contractors and which has been in operation for approximately four years. The station supplies power to the coalfields at Zonguldak and is linked by a 200 mile transmission line to Instabul, with the new extensions reported as being necessary for the increasing demands for power in Ankara. The Zonguldak coalfields are currently being developed on a considerable scale.

The contract calls for the supply of three 20,000 kW. turbo-generator sets and three boilers, together with switchgear, transformers and auxiliaries and building extensions. Other British firms concerned in the Catalagzi contract are Babcock and Wilcox who supply the boiler house equipment, Braithwaite and Co., who undertake the civil engineering work, and Dorman Long, who supply the steelwork for the buildings.

A further foreign contract has been placed with Crompton Parkinson Ltd. by the Soviet Import-Export Authority. The contract is for the supply of 200 kilometres of power cable and is worth approximately £500,000. It is reported that delivery will commence in September and will be completed about the end of the year.

The same firm has been awarded a contract by the Crown Agents for the Colonies on behalf of the Government of Malta. This contract is valued at over £650,000, and is for the supply of the underground cables and overhead lines of the new electrical distribution system which will distribute electric power supply from the generating station under construction on the island. Consulting engineers are Messrs. Preece, Cardew and Rider.

The new sytem, 3-phase A.C. at 50 cycles per sec. will supersede the existing single-phase A.C. 100 cycles per sec. system on Malta. The firm will supply all material for the high voltage and medium voltage conductor networks, and will lay the underground cables, erect the overhead lines, and will put the system into service. Work of installation is expected to begin in October and is expected to extend over three or four years.

An Auto-Shunter For Surface Application

Powered by a diesel industrial tractor engine giving 42 b.h.p. at 1,700 r.p.m., the Epping Auto-Shunter is designed to move loads of up to 150 tons on straight level rail. For this purpose particular attention has been paid to correct weight distribution as well as to the design of the front axle assembly since it is felt that a machine of this type must be capable of crossing over rails and points. The unit is described as economical by the manufacturers, Epping Engineers Ltd.

The unit is able to travel easily over rails and points owing to the freely pivoting front axle. The normal turning radius of 12 ft. 8 in. can be reduced by use of the steering brakes which act independently on the appropriate rear wheel. In normal working conditions the diesel fuel consumption does not exceed ½ to ¾ gallon per work hour.

METALS, MINERALS AND ALLOYS

COPPER.—Copper prices have continued to harden on the London Metal Exchange since our last while the United States' interest in September delivery is said to be keener though the metal continues to be sold generally on the basis of price at date of shipment. This price is now called 29-30 c. per lb. In London there has been comparatively little demand for cash metal and obviously consumers have not exhausted their stocks. Chief interest is, of course, directed to the Rhodesian situation and to the realization of Chilean stocks now estimated to amount to some 84,000 tons.

In Northern Rhodesia the present position, after various minor developments, appears to be that the African Mineworkers' Union, empowered by its constitutent members to order a strike if necessary, has asked the Department of Labour and Mines to arrange a meeting between the companies and representatives of the Union. The companies are not prepared to discuss the dismissal of employees in the Union, as such matters are specifically excluded by the terms of an agreement between the two parties, and would regard any strike on this issue as unconstitutional. They would also ask to see the Union's agenda before agreeing to a meeting. The Union seeks a tripartite meeting with the Commissioner of Labour and Mines, Mr. C. E. Cousins, in the chair. The Commissioner has flown to the Copperbelt for private talks with the executive officers of the African Mineworkers' Union. While the situation remains thus involved, it is at least satisfactory that the African Mineworkers' Union has so far avoided ordering a strike. The United States administration is, of course, indirectly interested in the Northern Rhodesian copper dispute as the D.M.P.A. has increased its original loan to the Chibuluma Mines of £3,000,000 by an additional £2,000,000 repayable in metals. They also now have a prior option of 19 per cent of Chibuluma's cobalt output.

Negotiations between the U.S. administration and that of Chile have been continuing. As mentioned last week, if Chilean copper is to be purchased for the U.S. stockpile this will involve an important change in U.S. Government purchase policy as, under an O.D.M. directive stockpile purchases are at present halted. It will be recalled that the U.S. Government sold 55,000 s.tons from the stockpile to fabricators last year to stabilize the market and this amount will presumably need to be replaced. United States negotiators are anxious to receive satisfactory assurances of internal adjustments in the Chilean economy if they are to accede to Chile's wishes. If this condition is seriously maintained, negotiations may tend to be protracted. Meanwhile, according to the Santiago paper *El Debate* the Chilean Finance Minister has informed the Central Bank Committee that negotiations for a $12,500,000 loan are well advanced and that favourable progress was being made in placing the accumulated stocks of 84,000 tons of copper in the United States. The Copper Committee are said to have approved the sale of 200 tons of copper wire at 32.75 c. per lb., equivalent to around 31 c. for electro, for foreign delivery. The U.S. Government has agreed to buy some 4,000 s.tons of metal from the Copper Range Company at 32 c.

Wage negotiations continue between the copper companies in the United States and the Mine Mill and Smelter Workers. Kennecott has reached a settlement in each of the Corporation's western mining divisions and negotiations with other unions regarding the Garfield refinery are continuing. At El Paso a number of M.M. and S. workers have ceased work, but the points of dispute are not being published. This C.I.O. Union has called for a strike against Anaconda for the end of the month to obtain similar terms to those already conceded by the other three big copper producers. The Union has prepared to call out some of its members working for the American Brass Co. but have intimated they would prefer a peaceful settlement of their claims.

LEAD.—Lead has been a very quiet market this week with prices almost unchanged. Consumers in the United States being still able to purchase August delivery have shown little interest in buying forward. Production of domestically mined lead in the U.S. declined in June for the third month running to 28,129 s.tons, making the total for the half-year 179,150 compared with 201,392 s.tons for the same period last year.

TIN.—The tin market in London has recovered sharply since our last, Eastern prices improving £23 12s. 6d. over the week-end. The market is also firmer in New York where the last price that we have was 83 c. per lb. for spot. The reason for this improvement in market sentiment is due no doubt primarily to advance knowledge that the U.S. has intimated to the International Tin Study Group at the Hague that if a sufficiently large number of governments want the conference reconvened they will join the meetings but will not be committed to any programmes which might be agreed on. In other words, they would attend, as previously, as observers.

With the outcome of a fresh meeting of the International Tin Study Group's members still quite uncertain, and the certainty that no effective measures to revalorize the metals seem practicable this year, attention is naturally centred on evidences of how far the lower level of prices is reducing world output. The Bolivian ambassador in Washington stated recently that the Bolivian output since the inauguration of nationalization has increased about 10 per cent. According to him, without nationalization it would have been impossible to operate the mines for more than 24 hours at present prices, but since nationalization they could operate them by means of subsidies and possibly, though he did not suggest this, by selective mining. In the Belgian Congo, as our correspondent mentions in this week's issue, the tin mining companies have approached the government for assistance, which, it is considered, would be justified on the ground of the social disturbance which would result from suspension of mining in the tin producing areas. In Australia mines and dredges in the New England district have been closed down and government assistance sought. But the total production of the whole of New South Wales is only about 400 tons a year and therefore is inappreciable in relation to world supply.

The Bureau of Mines reports the U.S. consumption of primary metal in May as 4,985 tons against 5,192 tons in April. The Department of Commerce gives total imports in May as equivalent to 8,656 tons (of which 6,739 were metal) compared with 9,144 tons in April (7,229 as metal). The Bureau of Mines reports the recovery of secondary tin in the U.S. last year as 32,261 tons compared with 34,434 tons in 1951. Straits shipments in the first half of August were 2,842 tons.

ZINC.—Zinc has been a very quiet and rather dull market this week, both here and in the United States, U.S. output in June at 45,184 s.tons was the lowest since June, 1950. The Congressional Tariff Commission has announced hearings to obtain the views of the industry on the effects of lead and zinc imports on home mining and has fixed November 3 and November 5 for hearings on the two metals respectively. The hearings are the outcome of the failure of Congress to carry tariff legislation on lead and zinc. The Commission after completing its investigations, is to submit its report by next March.

ALUMINIUM.—Production of primary aluminium in the U.S. in June is reported at 104,152 s.tons, only very slightly under the record figure of May.

A reduction in the offtake for the U.S. stockpile during the last quarter of the year is expected to allow for a considerable reduction of output in view of the anticipated power losses in the North-Western and Southern States through the drought.

Alcoa has filed a very lengthy report in rebuttal of the anti-trust charges of the U.S. Department of Justice. Obviously the legal proceedings are bound to be protracted. The American Society of Mechanical Engineers has now added five additional aluminium alloys to its boiler and pressure vessel code.

NICKEL.—With the gradual increase in supply and a decrease in requirements in certain directions, the world's supply and demand of nickel are expected shortly to be in balance. In these circumstances the International Materials Conference has decided that it will be unnecessary to allocate nickel in the non-Communist countries in the fourth quarter of the year. It is expected that the Manganese-Nickel-Cobalt Committee of the Conference will be dissolved on October 30, but the final decision remains to be taken. Final allocations for the current quarter (excluding *fonte* and Japanese material) totalled 36,365 tonnes compared with 33,130 in the first quarter of the

year. Canadian production is expected to soar by the end of the year when Sherritt Gordon begins to produce from its Lynn Lake property at the rate of some 8,500 tons yearly, to be followed by the Falconbridge Nickel Mines new undertaking with an estimated rate of 15,000 tons a year. International Nickel will expand output at Sudbury when the new leach process comes into operation.

QUICKSILVER.—The New York price was reduced last week to $188-191 per flask. Spanish and Italian deliveries to the United States, contracted for some time, are now said to have been completed and, pending further deals, the prices asked are reported unchanged. India still holds substantial amounts of their original surplus stock and this and occasional parcels from Yugoslavia, tend to be marketed at lower prices.

TUNGSTEN.—The markets are very quiet with very few offers coming forward, this is probably due to the holiday period though whether anything else is behind this one cannot tell. This applies to both the Europe and U.S.A. markets. A moderate amount of business was being done up to the middle of last week. New York reports state that a tungsten institute has been formed in the U.S. by a group of tungsten mining companies representing about 80 per cent of all United States production of the metal.

Iron and Steel

The drop in iron and steel production during the holiday period has been exceptionally severe, but most of the labour force engaged in the industry is now back at work and speculation turns upon the extent of the anticipated autumn revival. On this score producers are not unduly apprehensive, although overseas business is still difficult to negotiate. The impression is that the chief obstacle in the way of trade expansion is lack of purchasing power rather than lack of demand. However, for such business as is available abroad British steel producers are well able to compete on a comparative base of both price and quality.

Much, for instance, has been heard recently of the offer of Belgian merchant bars at about 25s. per ton less than the £35 per ton f.o.b. quoted by British makers. It is pointed out, however, that the British price is for open hearth steel as compared with the cheaper Thomas steel offered by the Belgians. In this branch of the steel trade there has been a long lull. It is believed that consumers' stocks are low and a revival of demand may not be long delayed.

Meanwhile, home requirements are very substantial and if purchasing is now more closely related to immediate requirements, works have in hand a sufficiency of orders for prompt delivery to keep them busily employed over the next few weeks.

In regard to further commitments, buyers are the more inclined to adopt a waiting policy because of the expectation that some reduction of home prices may be authorized. The Iron and Steel Corporation has ceased to function. Its duties have been taken over by the new Iron and Steel Board and it is understood that one of its first tasks will be to review the present maximum price levels and recommend such revisions as may be justified by ascertained costs of production.

In regard to raw materials, the steel industry is much more favourably placed than it was 12 months ago. Stocks of iron ore and scrap have been built up and are now adequate for all requirements. The quickening flow of scrap has been most surprising but it may decline just as rapidly and consumers are not inclined to take risks. Thus the demand for first class heavy mild steel scrap is still very keen and works are still open for the acceptance of further consignments.

The London Metal Market

(From Our Metal Exchange Correspondent)

The tin market has shown a firmer tendency recently, and the demand in the East in particular has been good, while at home a somewhat better enquiry has been experienced. Prices have now advanced about £50 per ton from the low level seen at the beginning of the month. It is reported that the Vice-President of the Bolivian Mining Corporation has stated that representatives of producing and consuming countries have agreed upon a basis for an international agreement which will be discussed in London in November. The Eastern price on Thursday morning was equivalent to £628 per ton c.i.f. Europe.

Copper has also been firmer, particularly for the forward position, the threatened strike at the Rhodesian mines no doubt having influenced sentiment in this market. A feature of the last few days has been the heavy selling of "cash" copper, apparently on behalf of American producers. It has been reported that a small quantity of Chilean copper has been sold at 32.75 c. per lb., which is below the controlled price and may indicate the possibility of further reductions.

There has been a steady demand for lead in spite of many works having been closed for annual holidays, and the undertone appears to be quite firm. The backwardation remains at about £6 per ton, and there are signs that the tight position which developed in August is likely to continue into September.

Zinc remains comparatively steady, and although a small backwardation was established recently this would appear to be only of a temporary nature.

Closing prices and turnovers for the week are given in the following table:—

	August 13		August 20	
	Buyers	*Sellers*	*Buyers*	*Sellers*
Tin				
Cash	£592½	£595	£610	£612½
Three months	£590	£592½	£605	£607½
Settlement	£595		£612½	
Week's turnover	475 tons		515 tons	
Lead				
Current month	£95½	£96	£95	£95½
Three months	£89½	£90	£88½	£89½
Week's turnover	4,300 tons		6,650 tons	
Zinc				
Current month	£74	£74½	£72½	£72½
Three months	£74	£74½	£72½	£72½
Week's turnover	2,900 tons		4,250 tons	
Copper				
Cash	£230	£232½	£230	£235
Three months	£210	£211	£215½	£216½
Settlement	£232½		£235	
Week's Turnover	5,050 tons		4,325 tons	

AUGUST 20 PRICES

COPPER, TIN, LEAD AND ZINC

(See our London Metal Exchange report for Thursday's prices)

ANTIMONY

English (99%) delivered, 10 cwt. and over .. .. .. £225 per ton
Crude (70%) .. .. .. £210 per ton
Ore (60% basis) .. .. .. 20s. — 22s. nom. per unit, c.i.f.

NICKEL

99.5% (home trade) .. .. £483 per ton

OTHER METALS

Aluminium, 99·5% £150 per ton
Bismuth (min. 4 cwt. lots) 17s. lb.
Cadmium (Empire), 13s. 10d./14s. 4d. lb.
Chromium, 6s. 5d./7s. 6d. lb.
Cobalt, 20s. lb.
Gold, 248s. f.oz.
Iridium, £60 oz. nom.
Magnesium, 2s. 10½d. lb.
Manganese Metal (96%-98%) £280/£295
Osmiridium, £40 oz. nom.
Osmium, £65/70 oz. nom.
Palladium, £7 15s./£8 10s. oz.
Platinum, £27/£33 5s.
Rhodium, £42 10s. oz.
Ruthenium, £25 oz.
Quicksilver, £70 5s./£70 10s. ex-warehouse
Selenium, 30s. 6d. nom. per lb.
Silver 74d. f.oz. spot and f'd
Tellurium, 15s./16s. lb.

ORES, ALLOYS, ETC.

Bismuth .. .. 30% 5s. 6d. lb. c.i.f.
65% 9s. lb. c.i.f.
Chrome Ore—
Rhodesian Metallurgical (lumpy) £14 8s. 0d. per ton c.i.f.
" " (concentrates) £14 8s. 0d. per ton c.i.f.
" " Refractory £14 0s. 0d. per ton c.i.f.
Baluchistan Metallurgical .. £16 11s. 6d. per ton c.i.f.
Magnesite, ground calcined .. £26 - £27 d/d
Magnesite, Raw .. .. .. £10 - £11 d/d
Molybdenite (85% basis) .. 103s. 10½d. per unit c.i.f.
Wolfram (65%) .. .. .. World buying 305s. - 315s.
" " .. .. .. 327s. 6d. U.K. Selling
Scheelite .. .. World buying 295s. - 300s.
" .. .. 312s. 6d. U.K. Selling
Tungsten Metal Powder .. .. 24s. 3d. - 27s. nom. per lb. (98% Min. W.) (home)
Ferro-tungsten .. .. .. 21s. 4d. nom. per lb. (home)
Carbide, 4-cwt. lots .. .. £35 13s. 9d. d/d per ton
Ferro-manganese, home .. .. £49 15s. 0d. per ton
Manganese Ore Indian c.i.f. Europe (46%-48%) .. .. .. 7s. 11d. - 8s. 7d. per unit
Brass Wire .. .. .. 2s. 5½d. per lb. basis
Brass Tubes, solid drawn .. 1s. 10d. per lb. basis

THE MINING MARKETS

(By Our Stock Exchange Correspondent)

Stock markets were generally very firm this week. Gilt-edged were steady and prices hardened with an improved volume of business. Outside in the industrial market, turnover mounted. Exports for July were the best for the year so far. The pound abroad remained firm and revenue figures improved. Arrangements have been made for paying off the interest-free loan from Canada in gradual stages. All these factors contributed to the buoyant tone.

In the Kaffir market, trading conditions were idle but prices remained steady. This sound background is due to the belief that the political situation may improve during the next few months. Market gossip suggests that the more moderate sections among the Nationalists realize that extreme measures have almost certainly been the cause of loss of foreign exchange to the Union and have created difficulties in obtaining fresh capital. The strike in France has dried up much of the Paris business. Share prices for finance houses showed some quiet improvement but among individual mines only minor adjustments took place.

The O.F.S. market remained featureless. Last week's improvement in the Freddies group was not sustained. Rumour now attributes the former harder tendency in this group to technical success in overcoming mining difficulties in the khaki shale area.

A feature in the West African group was Ashantis. The improved profits for the first nine months of the current year and the promise of good developments in the future brought in buyers on a market short of stock. Last year the dividend was short-earned but market circles now expect it to be easily maintained for the current year. Companies in this section benefit from selling 100 per cent of their production at premium prices and tax reliefs are expected during next year. These will be particularly applicable to Ashanti. On the debit side, working costs are still a major problem.

In the diamond market small gains were recorded by most of the popular issues. In some quarters this was attributed to speculative buying in anticipation of the eventual release of bottled up Paris demand when the French strike is over. De Beers have always been popular in Paris as an inflation hedge.

Coppers were good. The recent rise in the metal price was much better than had been anticipated before the freeing of the metal. Latest reports from Rhodesia indicate that the threatened African strike may be avoided and this helped all mines operating in that part of the world. In addition, it is clear that consumers have been holding off and it is thought that they must re-enter the market in the autumn. Rhodesian mines rose in anticipation of capital plans for floating the new Bancroft mine. The principal participants are the British South Africa Co., Rhokana, and Rhodesian Anglo-American. Rhokana shareholders will be offered three shares at 6s. for every £1 stock held and Rhodesian Anglo shareholders three shares at 6s. to every ten shares held. Mount Lyell, the low-grade Australian mine, has asked the Commonwealth government for some form of subsidy in view of the lower price level of the metal.

Eastern tin shares were firm. A steady all-round improvement took place following the rise in the price of the metal—over £600 a ton. Buyers of favourite issues found the market short of stock. Nigerians also improved. There is a feeling that the London talks have created a better political background in the country and estimates of the benefit to be received from columbite sales have brought sharp improvements in Amalgamated Tin and Jantar. This latter mine proposes to make a capital bonus issue of one 2s. share for every 3s. unit held. These will then be consolidated into 2s. 6d. units. Market circles are hoping for considerably higher dividends at the end of the current year.

Lead/zinc shares were again better on the improved base metal position. Mount Isa alone remained unchanged.

	Price Aug. 19	+ or — on week
FINANCE		
African & European	2⅛	—⅛
Anglo American Corpn.	5⅝	.....
Anglo-French	18/1½	+7½d
Anglo Transvaal Consol.	21/3	.....
Central Mining (£1 shrs.)	30/-	+7½d
Consolidated Goldfields	46/-	.....
Consol. Mines Selection	25/7½	.....
East Rand Consols	2/7½	.....
General Mining	3⅜	—¼
H.E. Prop	38/9	+1/3
Henderson's Transvaal	7/6	.....
Johnnies	51/3	+1/3
Rand Mines	3⅛	.....
Rand Selection	31/10½	—7½d
Strathmore Consol.	32/6	.....
Union Corp. (2/6 units)	28/3	+3d
Vereeniging Estates	3⅞	—⅛
Writs	35/-	+7½d
West Wits	42/6	.....
RAND GOLD		
Blyvoors	40/6	.....
Brakpan	11/4½	+1½d
City Deep	20/-	+1/3
Consol. Main Reef	18/9	.....
Crown	33/9	+7½d
Daggas	3⅛	.....
Doornfontein	23/-	.....
Durban Deep	36/3	.....
E. Daggas	14/6	+1½d
E. Geduld (4/- units)	33/9	+6d
E. Rand Props	2⅛	+⅛
Geduld	4¼	+⅛
Govt. Areas	13/-	.....
Grootvlei	23/-	.....
Libanon	9/9	—3d
Luipaards Vlei	22/6	—3d
Marievale	18/6	—6d
Modderfontein East	17/6	.....
New Kleinfontein	19/6	—6d
New Pioneer	17/6	—1/-
Randfontein	42/6	—4½d
Robinson Deep	10/9	.....
Rose Deep	13/9	.....
Simmer & Jack	5/-	.....
S.A. Lands	24/4½	+7½d
Springs	4/9	.....
Stilfontein	28/-	—3d
Sub Nigel	2⅝	+⅛
Van Dyk	6/3	.....
Venterspost	13/3	—3d
Vlakfontein	14/-	.....
Vogelstruisbult	32/9	.....
West Driefontein	6⅞	.....
W. Rand Consolidated	54/4½	.....
Western Reefs	49/4½	+4½d
O.F.S.		
Freddies	10/6	.....
Freddies N.	10/-	.....
Freddies S.	9/4¼	—4½d
F. S. Geduld	2⅛	.....
Geoffries	14/9	—3d
Harmony	24/-	+3d
Loraine	8/10½	.....
Lydenburg Estates	12/6	—3d
Merriespruit	9/-	+3d
Middle Wits	15/9	.....
Ofsits	36/10½	.....
President Brand	28/-	.....
President Steyn	21/7½	.....
St. Helena	13/11½	.....
Virginia Ord.	12/9	.....
Welkom	20/3	—1½d
Western Holdings	3¼	—⅛
WEST AFRICAN GOLD		
Amalgamated Banket	1/7½	+1½d
Ariston	6/3	.....
Ashanti	22/-	+1/-
Bibiani	5/9	.....
Bremang	2/3	+1½d
G.C. Main Reef	3/7½	.....
G.C. Selection Trust	6/4½	.....
Kononga	2/7½	—1½d
Lyndhurst Deep	1/-	.....
Marlu	1/4½	+1½d
Taquah & Abosso	3/4½	.....
AUSTRALIAN GOLD		
Boulder Perseverance	2/7½xd	—1½d
Gold Mines of Kalgoorlie	13/6	+9d
Great Boulder Prop.	10/1½	+1½d
Lake View and Star	15/-	.....
Mount Morgan	18/1½	+4½d
North Kalgurli	6/10½ xb	+1½d
Sons of Gwalia	6/3	—3d
South Kalgurli	6/10½ xd	—1½d
Western Mining	13/3	+1½d
MISCELLANEOUS GOLD		
Cam and Motor	9/3	+3d
Champion Reef	5/-	—4½d
Falcon Mines	6/6	.....
Globe & Phoenix	25/3	—9d
G.F. Rhodesian	5/-	.....
London & Rhodesian	4/10½	—1½d
Motapa	1/7½	.....
Mysore	3/-	—6d
Nundydroog	5/9	—4½d
Ooregum	3/3	.....
Orovilie	10/3	.....
MISCELLANEOUS GOLD (contd.)		
St. John d'El Rey	24/6	.....
Zams	25/9	+6d
DIAMONDS & PLATINUM		
Anglo American Inv.	3⅛	—⅛
Casts	19/3	+6d
Cons. Diam. of S.W.A.	4⅛	.....
De Beers Defd. Bearer	62/9	+3d
De Beers Pfd. Bearer	14½	+¼
Pots Platinum	7/10½	+4½d
Watervaal	13/-	.....
COPPER		
Chartered	51/3	+4½d
Esperanza	4/4½	.....
Indian Copper	4/-	—1½d
Messina	3⅛	+⅛
Nchanga	6½	+⅛
Rhod. Anglo-American	49/9	+6d
Rhod. Katanga	8/4½	—1½d
Rhodesian Selection	15/-	+10½d
Rhokana	19	+¼
Rio Tinto	20½	.....
Roan Antelope	13/4½	+1½d
Selection Trust	31/10½	+1/7½
Tanks	58/6	+1/-
Tharsis Sulphur Br.	41/3	.....
TIN (Eastern)		
Ayer Hitam	24/-	+3d
Bangrin	8/3	.....
Gopeng	8/3	+6d
Hongkong	6/3	.....
Ipoh	15/-	+7½d
Kamunting	8/-	+3d
Kepong Dredging	4/3	.....
Kinta Tin Mines	10/-	+3d
Malayan Dredging	22/9	+6d
Pahang	12/9	+3d
Pengkalen	7/6	.....
Petaling	9/-	+4½d
Rambutan	10/6	+6d
Siamese Tin	9/3	+4½d
Southern Kinta	12/6	+4½d
S. Malayan	22/9	+1/3
S. Tronoh	8/9	+1/3
Sungei Kinta	10/-	.....
Tekka Taiping	4/9	+1½d
Tronoh	22/6	.....
TIN (Nigerian and Miscellaneous)		
Amalgamated Tin	9/3	+7½d
Beralt Tin	28/3	+1½d
Bisichi	4/-	+4½d
British Tin Inv.	13/4½	+4½d
Ex-Lands Nigeria	3/9	+1½d
TIN (Nigerian and Miscellaneous) contd.		
Geevor Tin	9/9xd	.....
Gold & Base Metal	3/6	+1½d
Jantar Nigeria	14/9	+1/4½
Jos Tin Area	11/3	.....
Kaduna Prospectors	2/-	—3d
Kaduna Syndicate	2/-	+1½d
London Tin	4/10½	.....
United Tin	2/4½	+3d
SILVER, LEAD, ZINC		
Broken Hill South	43/9	+1/3
Burma Mines	1/6	+1½d
Consol. Zinc	26/3	.....
Lake George	9/10½	—1½d
Mount Isa	32/9	.....
New Broken Hill	24/-	+2/9
North Broken Hill	56/10½	+3/1½
Rhodesian Broken Hill	10/4½	.....
San Francisco Mines	19/3	—1½d
Uruwira	3/-	.....
MISCELLANEOUS		
BASE METALS & COAL		
Amal. Collieries of S.A.	44/6	.....
Associated Manganese	48/-	.....
Cape Asbestos	20/9	—1½d
C.P. Manganese	52/6	+7½d
Consol. Murchison	23/-	+9d
Mashaba	4½	.....
Natal Navigation	3¾	+⅛
Rhod. Monteleo	5/-	.....
Turner & Newall	55/6	—6d
Wankie	13/6xd	.....
Witbank Colliery	3⅜	—⅛
CANADIAN MINES		
Dome	$34	+2
Hollinger	$26½	—1
Hudson Bay Mining	$82	+1
International Nickel	$76	+2½
Mining Corpn. of Canada	£4⅛	+¼
Noranda	$127	+4
Quemont	£6¾	+¼
Yukon	4/-	.....
OIL		
Anglo-Iranian	7⅞	—⅛
Apex	39/4½	.....
Attock	34/4½	.....
Burmah	54/9	+2/3
Canadian Eagle	29/3	—10½d
Mexican Eagle	22/3	—3d
Shell (bearer)	4⅞	+⅛
Trinidad Leasehold	28/-	—3d
T.P.D.	24/-	.....
Ultramar	27/3	+2/9

COMPANY NEWS AND VIEWS

Switching Facilities For Canadian Dollar Securities Restored

The restoration of facilities for "switching" of Canadian securities announced at the end of last week followed on the agreement by the U.K. to pay off the 1942 Canadian interest-free loan in full by 1958.

An explanatory circular issued by the Bank of England made it clear that permission will now normally be given to switch from Canadian securities into either quoted Canadian dollar securities or United States dollar securities, and from United States dollar securities into quoted Canadian dollar securities. Thus, the net effect has been to make United States and Canadian quoted dollar securities interchangeable in all respects. Furthermore, general permission has been given for transfers between blocked sterling accounts of residents of the American account area and residents of Canada as if they constituted a single monetary area. These transfers may be made by banks without any formality.

Under the agreement concluded between the U.K. and Canadian Governments the United Kingdom paid immediately a lump sum of $39,000,000, leaving a balance of $150,000,000, which is to be repaid in twenty equal quarterly instalments commencing from March 1, 1954, and ending on December 1, 1958. The formal announcement from the Treasury granting permission for the switching of Canadian securities recalled that the original amount of the 1942 interest-free loan was $700,000,000, and represented a funding of advances made to the U.K. Government in the period preceding the wartime arrangements for mutual aid.

The newly found freedom to switch has brought about a more unified premium in respect of Canadian dollar securities listed in the Stock Exchange and on Tuesday of this week Canadian dollar stocks were adjusted to the common basis of 4 per cent premium over the equivalent of prices in Canada.

The current practice for U.S. dollar securities is to publish an official premium each day in the Stock Exchange Daily Official List based on the official exchange rate of U.S. $2.80 to the £, which is considered to be reasonably accurate in view of the fact that the exchange rate can only move 2 c. either side of $2.80. The Canadian dollar, however, being completely free can show relatively large variations so that in order to stabilize the position, dealers in Canadian dollar stocks were using an exchange rate of $2.78½ to the £ as a basis for calculation and then adding the 4 per cent premium.

Broadly speaking, the new arrangements do no more than remove one of the technical difficulties, which hitherto had rendered investment in Canada a less attractive proposition than investing in United States stocks largely because of the inability of investors to freely exchange their existing Canadian stocks into other Canadian stocks. However, the new facilities will not only iron out the premium as between Canadian stocks quoted in London and Canadian stock *vis-à-vis* United States stocks, but will allow switching from one stock to another. Thus, how far and to what extent an expansion of U.K. investments in Canada will result, will largely depend on whether market investors are willing to enlarge their holdings in marketable Canadian stocks at the expense of their existing holdings in the United States. Yet this is not the whole of the story because it has been possible for some time past for U.K. investors to buy Canadian stocks indirectly by selling blocked German marks or Belgium, Dutch and Swiss securities for dollars, and then to use these funds to buy Canadian stocks through New York.

Nevertheless, the restoration of this "switching" facility is a step in the right direction and even if by itself it does not immediately result in an efflux of capital from this country to Canada, it is apparent that the importance of increasing our stake in Canada's development is a matter which will receive high priority. In the long run, of course, the only basis on which a large flow of capital from this country to Canada will materialize depends on this country's ability to achieve a continuing export surplus. In this connection it was encouraging to hear a few weeks ago that the Treasury has already sanctioned £17,500,000 worth of dollars for investment in Canada so far this year.

Bancroft Mines Finance Arrangements

Bancroft Mines on the Northern Rhodesian Copperbelt about which Mr. H. F. Oppenheimer gave some details at the last annual meeting of Rhokana Corporation, has now been incorporated in Northern Rhodesia with an authorized share capital of £5,000,000 in 20,000,000 shares of 5s. each.

Initial financing arrangements announced in the middle of this week state that the whole of the share capital is to be issued for cash at 6s. per share. Stockholders in Rhokana are to be offered shares in the proportion of three new Bancroft mines shares for every £1 unit of Rhokana ordinary and "A" stock, and stockholders in Rhodesian Anglo American will be offered three Bancroft shares for every ten "Rhoanglo" 10s. units.

Shares not subscribed will be taken up by the companies concerned and subject to this factor, the new shares of Bancroft mines will be issued as follows:

Company	*Shares*
British South Africa Company	3,000,000
Rhokana Corporation	9,500,000
Rhodesian Anglo American	74,700
Rhokana Stockholders	3,570,300
Rhodesian Anglo Stockholders	3,855,000
Total	20,000,000

The offer to shareholders in Rhokana Corporation will exclude Rhodesian Anglo American, which holds 52 per cent of the Corporation's capital.

Although the cost of bringing Bancroft mines into production by 1958 is now estimated at £12,000,000, the present issue will only provide £6,000,000. But this is considered to be sufficient to repay the initial expenditure on the property undertaken by Rhokana of £400,000 and also to finance the construction work necessary up to end of 1955.

The new mine will start with reserves of copper, proved by diamond drilling, of approximately 80,000,000 s.tons with an average copper content of 3.6 per cent. On the basis of a monthly production of 150,000 s.tons, equivalent to 4,000 s.tons of finished copper per month, the life of the new mine is at least 40 years, but there is little doubt that substantial additional reserves will be proved by further drilling.

Consolidated Tin Announce Higher Net Profits

Events in Bolivia during the past year caused some concern to the Board of Consolidated Tin Smelters, declared Mr. Clifford Waite in his statement accompanying the report and accounts for the year ended March 31 last. This concern is understandable for, after the Bolivian Government had nationalized the three large mining groups in that country, the agreements which Consolidated Tin Smelters held with certain mining groups in Bolivia stood in need of clarification. That being so, the company concluded a new contract with the Bolivian Government and the Bolivian Mining Corporation for the shipment of concentrates to Consolidated Tin's subsidiary in Liverpool and shipments of Bolivian tin concentrates, suspended last year following nationalization, were resumed early this year.

About Malaya the charman said that while the position had improved appreciably, there was still much to be done before conditions returned to normal. But Malaya's economy could only be preserved if its tin mining and rubber industries were maintained in a healthy condition. To this end, he continued, it was of paramount importance that prospecting for new mining areas should be resumed at the earliest possible date.

Turning to the effect of the tin price, Mr. Waite said that its fall, unaccompanied as it was by a decrease in mining costs, was causing some concern to all producers. At the moment the effect on the tonnage produced was not large but that any further decline in price would have a marked effect on production. Under the conditions which face the world in the next few years the experiment, he said, of a Commodity Agreement for Tin "may be well worth a trial."

The Consolidated profit and loss account for the year ended March 31 last showed a reduction in trading profit from £1,339,395 to £1,129,825, but the group net profit for the year, after providing for taxes, at £475,860 was £12,241 higher than in the preceding year. After making appropriations to reserves and maintaining the dividend at 12½ per cent for the year, the group's surplus balance carried forward was raised from £556,974 to £731,881. Meeting, London, September 10.

Northern Rhodesian Tax Bill

The Northern Rhodesian Legislative Council has given a second reading to a Bill which, when finally passed, will confine company tax concessions to shareholders resident within the territory and save Northern Rhodesia between £3,000,000 and £7,000,000 annually.

Introducing the Bill, Mr. R. Taylor, Acting Financial Secretary, explained that companies incorporated in the territory paid tax at the rate of 7s. 6d. in the £ and that this company rate was passed on to the shareholders. He added that shareholders could then claim a refund of the difference between what they would normally pay in tax and the company rate. The object of the Bill was to remove this tax concession from shareholders who lived outside Northern Rhodesia.

Mr. Taylor further explained that, as long as present conditions continued, any British shareholder in a company incorporated in Northern Rhodesia would be entitled to receive as much as £1,000 tax free. He said this concession was greater than the territory could bear. It did not apply in Northern Rhodesia before 1947, and did not now apply either in Southern Rhodesia or the Union of South Africa.

Northern Rhodesia had no "avoidance of double taxation" agreement with the Union of South Africa and a change of policy might result in cutting off certain capital investment from South Africa. But Northern Rhodesia, Mr. Taylor added, could not allow several million pounds to go out at one door in order to allow a few thousand pounds to come in at another.

Consolidated Murchison Maintains Profits

Consolidated Murchison (Transvaal) Goldfields and Development has announced an estimated profit for the June quarter of £135,012, which includes revenue of £872 from premium gold sales. This compares with £124,903 achieved in the March quarter.

Results for the last four quarters are given in the following table.

Qtr. 1952/3	*Tons Crushed*	*Profit**	*Premium Revenue*	*Tax (Est.)*	*Net Profit*	*Capital Exp.*
		£	£	£	£	£
Sept.	23,670	64,534	314	10,000	54,848	2,321
Dec.	19,984	46,299	749	7,000	40,048	3,024
Mar.	15,100	124,711	192	32,000	92,903	31
June	21,752	134,140	872	27,000	108,012	24,965

* Estimated profit from antimony and gold

During the June quarter development footage advanced amounted to 279 ft., of which 27 ft. were accomplished in the orebody, and 243 ft. in lenses known to carry gold values only. But values were found to be unpayable in both cases.

For the first six months of the current year, net profit totalled £200,915, or £175,919 after providing for capital expenditure in this period amounting to £24,996.

Aluminium Ltd. Earns $9,498,796 In First Six Months

Aluminium Limited has announced a consolidated net profit of $9,498,796 in the first six months of 1953 compared with $10,906,058 in the first half of 1952. The profit of $1.06 per share on 9,002,668 shares outstanding compares with $1.21 per share in the first half of 1952 on the basis of the same number of shares and is calculated after providing substantial increases for interest charges, dividends on preferred shares of subsidiaries and capital cost allowance in respect of lands, plants and facilities.

Sales in the six months' period showed an increase from $155,112,470 to $164,930,557 but operating revenues included in the sales figure, chiefly shipping and rail services performed for third parties, showed a decline from $20,706,124 to $12,894,469. Cost of sales increased from $77,622,045 to $88,873,987, but operating expenses chargeable against operating revenues declined from $16,062,376 to $10,363,806.

Capital cost allowances, largely due to an increase in amount charged by Aluminum Company of Canada, Ltd., advanced to $24,489,260 compared with $16,282,271 in the like period of last year. Allowances on the company's $435,000,000 construction programme (in excess of normal depreciation on facilities in operation) had the effect of reducing net profit by $7,811,410 in the first half of 1953 against a reduction of profit of $4,780,629 in 1952.

Rain Damps Down Production of Mashaba Rhodesian

Rain was responsible for the loss of 30 per cent of the available working time of the Mashaba Rhodesian Asbestos Company in 1952, and power failures were blamed for a further 10 per cent. The result was that total production at 587 tons represented a decline of 134 tons compared with 1951. Nor could the increase in the price received from approximately £70 to £90 per ton of asbestos offset the lowered production, and the loss on the year's operations carried to the balance sheet was £4,781 compared with a loss in 1951 of £1,016.

CONSOLIDATED MURCHISON (TRANSVAAL) GOLDFIELDS AND DEVELOPMENT COMPANY LIMITED

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Directors' Report for the Quarter ended 30th June, 1953

The following is the report on the work done during the quarter ended 30th June, 1953:

Tons crushed	21,752
Estimated Profit from Antimony and Gold	£134,140
Estimated Taxation	£27,000

Revenue of **£872** in addition to the above was received during the quarter from sales of gold for manufacturing purposes.

The Capital Expenditure during the period amounted to **£24,965.**

During the quarter the development footage accomplished amounted to **279** feet.

Of this, **27** feet were accomplished in the ore body, of which **20** feet were sampled and found to be unpayable on account of the combined gold and antimony content.

A further **243** feet were accomplished in lenses known to carry gold values only. **235** feet were sampled and proved to be unpayable giving an average value of **3.97** dwts. per ton over a width of **62** inches.

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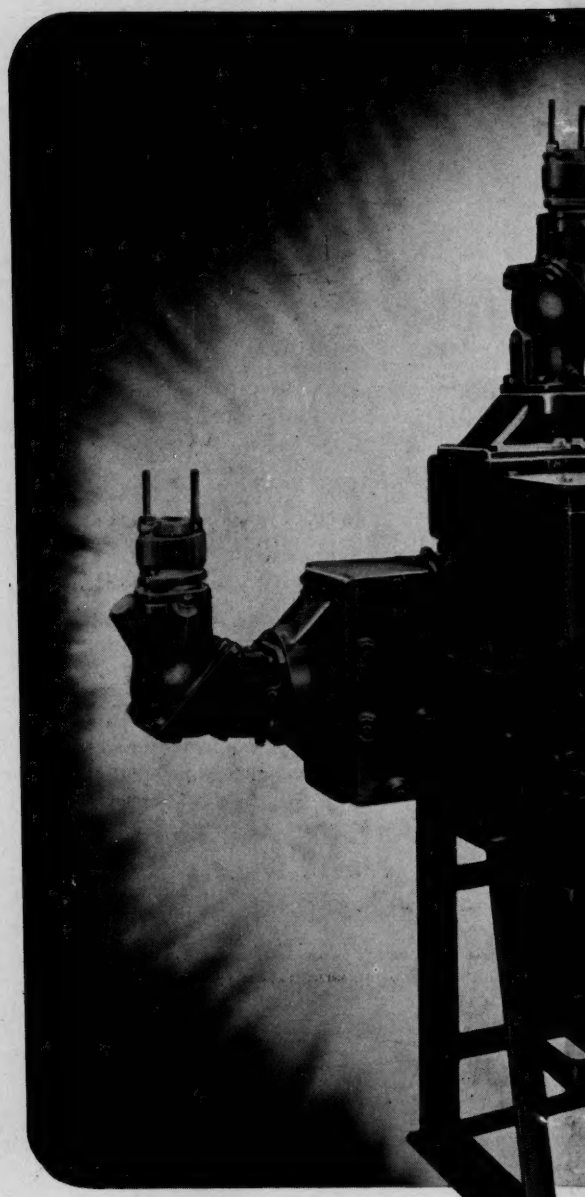

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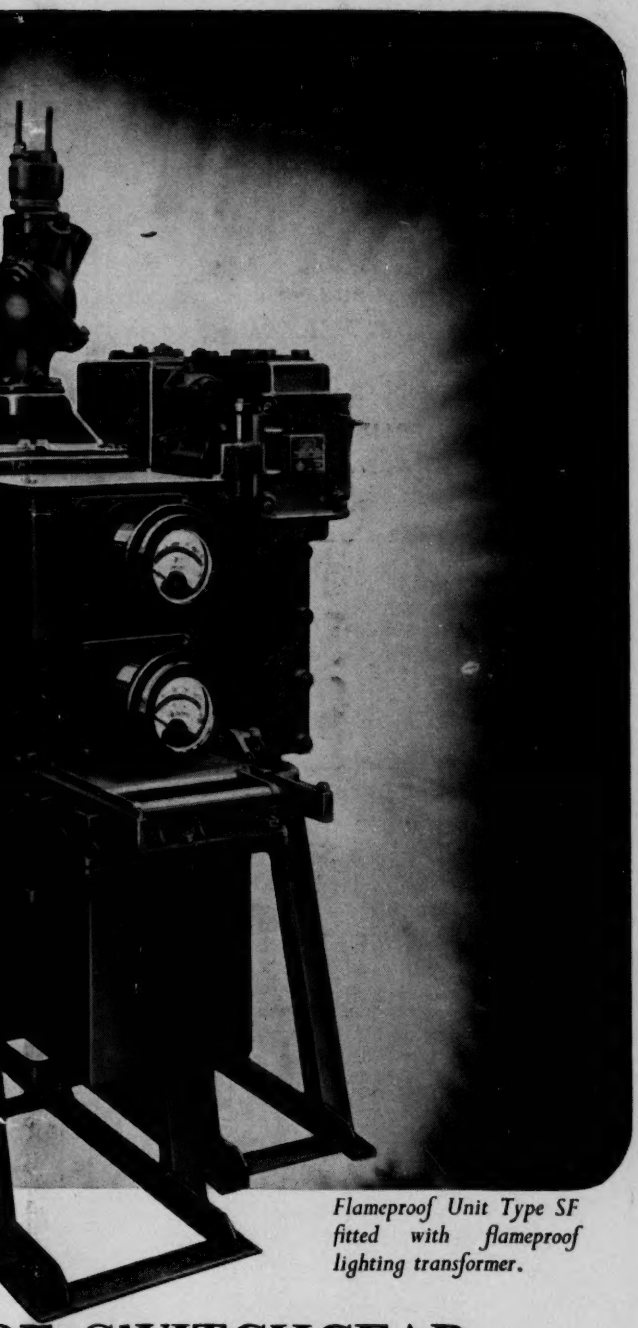

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